

What is claimed is:

1. A method for identifying compounds that alter FIL-1 theta activity, the method comprising:

- (a) mixing a test compound with the polypeptide selected from the group consisting of:
  - (i) a polypeptide comprising the amino acid sequence of SEQ ID NO:4, except that the amino acid at 44 is selected from the group consisting of threonine and isoleucine and the amino acid at 51 is selected from the group consisting of aspartic acid and alanine; and,
  - (ii) a polypeptide that is a fragment of the polypeptide of SEQ ID NO:4, wherein the fragment exhibits FIL-1 theta activity, and
- (b) determining whether the test compound alters FIL-1 theta activity of the polypeptide.

2. A method for identifying compounds that inhibit the binding activity of FIL-1 theta polypeptides, the method comprising:

- (a) mixing a test compound with a polypeptide selected from the group consisting of:
  - (i) a polypeptide comprising the amino acid sequence of SEQ ID NO:4, except that the amino acid at 44 is selected from the group consisting of threonine and isoleucine and the amino acid at 51 is selected from the group consisting of aspartic acid and alanine; and,
  - (ii) a polypeptide that is a fragment of the polypeptide of SEQ ID NO:4, wherein the fragment binds an IL-1 receptor family member and a binding partner of the polypeptide; and
- (b) determining whether the test compound inhibits the binding activity of said polypeptide.

3. A combination method for screening a plurality of molecules to determine whether the molecules affect a biological activity of FIL-1 theta, the method comprising:

- (a) selecting a molecule that affects an ability of FIL-1 theta to bind an IL-1 receptor family member;
- (b) contacting the selected molecule and a FIL-1 theta polypeptide with cells capable of exhibiting a biological activity when contacted with FIL-1 theta polypeptide selected from the group consisting of a polypeptide comprising the amino acid sequence of SEQ ID NO:4, except that the amino acid at 44 is selected from the group consisting of threonine and isoleucine and the amino acid at 51 is selected from the group

consisting of aspartic acid and alanine and a polypeptide that is a fragment of the polypeptide of SEQ ID NO:4 that binds an IL-1 receptor family member, and

- (c) analyzing the cells for the occurrence of the biological activity, wherein if the biological activity observed in the presence of the selected test compound differs from the biological activity that is observed when the selected test compound is absent, the selected test compound affects the biological activity of FIL-1 theta,

4. A molecule identified according to claim 1, wherein the molecule is an antagonist of FIL-1 theta.
5. A molecule identified according to claim 2, wherein the molecule is an antagonist of FIL-1 theta.
6. A molecule identified according to claim 3, wherein the molecule is an antagonist of FIL-1 theta.
7. A method of treating an inflammatory and/or autoimmune disease, the method comprising the step of administering a FIL-1 theta antagonist according to claim 4 to a subject afflicted with the inflammatory and/or autoimmune disease.
8. A method of treating an inflammatory and/or autoimmune disease, the method comprising the step of administering a FIL-1 theta antagonist according to claim 5 to a subject afflicted with the inflammatory and/or autoimmune disease.
9. A method of treating an inflammatory and/or autoimmune disease, the method comprising the step of administering a FIL-1 theta antagonist according to claim 6 to a subject afflicted with the inflammatory and/or autoimmune disease.
10. The method of claim 7, wherein the wherein inflammatory and/or autoimmune disease is selected from the group consisting of: ankylosing spondylitis, Crohn's Disease, ulcerative colitis, psoriatic arthritis, asthma, infection-associated airway hyperactivity, granulomatous lung disease, emphysema, chronic fibrosing alveolitis, acute hyperoxic lung damage, multiple sclerosis, chronic inflammatory demyelinating polyneuropathy, stroke, acute myocardial infarction, unstable angina, arterial restenosis, congestive heart failure, osteoporosis, osteoarthritis, glomerulonephritis, uveitis, Behçet's syndrome, sepsis, acute pancreatitis, diabetes, endometriosis, periodontal disease, heat stroke, glaucoma, multiple myeloma, myeloid leukemia, and combinations thereof.

11. The method of claim 8, wherein the wherein inflammatory and/or autoimmune disease is selected from the group consisting of: ankylosing spondylitis, Crohn's Disease, ulcerative colitis, psoriatic arthritis, asthma, infection-associated airway hyperactivity, granulomatous lung disease, emphysema, chronic fibrosing alveolitis, acute hyperoxic lung damage, multiple sclerosis, chronic inflammatory demyelinating polyneuropathy, stroke, acute myocardial infarction, unstable angina, arterial restenosis, congestive heart failure, osteoporosis, osteoarthritis, glomerulonephritis, uveitis, Behçet's syndrome, sepsis, acute pancreatitis, diabetes, endometriosis, periodontal disease, heat stroke, glaucoma, multiple myeloma, myeloid leukemia, and combinations thereof.

12. The method of claim 9, wherein the wherein inflammatory and/or autoimmune disease is selected from the group consisting of: ankylosing spondylitis, Crohn's Disease, ulcerative colitis, psoriatic arthritis, asthma, infection-associated airway hyperactivity, granulomatous lung disease, emphysema, chronic fibrosing alveolitis, acute hyperoxic lung damage, multiple sclerosis, chronic inflammatory demyelinating polyneuropathy, stroke, acute myocardial infarction, unstable angina, arterial restenosis, congestive heart failure, osteoporosis, osteoarthritis, glomerulonephritis, uveitis, Behçet's syndrome, sepsis, acute pancreatitis, diabetes, endometriosis, periodontal disease, heat stroke, glaucoma, multiple myeloma, myeloid leukemia, and combinations thereof.

13. The method of claim 7, wherein the antagonist blocks an inflammatory and/or autoimmune disease selected from the group consisting of rheumatoid arthritis and inflammatory bowel disease.

14. The method of claim 8, wherein the antagonist blocks an inflammatory and/or autoimmune disease selected from the group consisting of rheumatoid arthritis and inflammatory bowel disease.

15. The method of claim 9, wherein the antagonist blocks an inflammatory and/or autoimmune disease selected from the group consisting of rheumatoid arthritis and inflammatory bowel disease.